

Notice of Allowability

Application No.

10/006,242

Examiner

KAMAL B. DIVECHA

Applicant(s)

HINCHLIFFE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/23/06.
2. ☒ The allowed claim(s) is/are 1, 3, 5, 9-11, 13, 15, 19-21, 23, 25 and 29-32.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

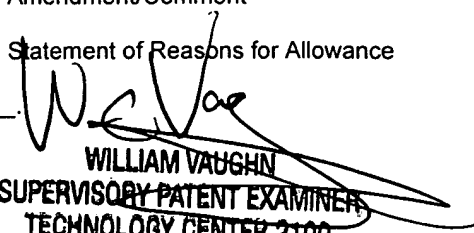
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kevin J. Zilka on September 12, 2006.

The application has been amended as follows:

In the claims:

Please cancel claims 4, 14 and 24.

Please amend claims 1, 3, 5, 9, 10, 11, 15, 21, 25, 31 and 32 as follows:

1. (Currently Amended) A computer program product embodied on a [[tangible]] computer readable storage medium for controlling a source computer to update out-of-date data stored by a plurality of destination computers with updated data stored by said source computer using a computer network connecting said source computer to said plurality of destination computers, said computer program product comprising:
 - associating code operable to associate priority data specifying a priority level with each destination computer;
 - establishing code operable in dependence upon said priority data to establish a plurality of groups of destination computers such that destination computers within a group of destination computers share a common priority level;
 - generating code operable to generate a plurality of push update tasks driven by said source computer, each push update task serving to transfer said updated data from said source computer to a corresponding group of destination computers via said computer network;
 - ordering code operable to order said plurality of push update tasks in dependence upon said common priority level of each group of destination computers to which a push update task

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relates to form a sequence of push update tasks such that push update tasks corresponding to a higher common priority level occur within said sequence before push update tasks

corresponding to a lower common priority level; and

execution code operable to sequentially execute said sequence of push update tasks upon said source computer to transfer said updated data from said source computer to said plurality of destination computers via said computer network;

wherein said source computer transfers said updated data to said group of destination computers using multicast messages that are addressed to all destination computers within said group of destination computers;

wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said establishing code is operable to split said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said ordering code is operable to order corresponding push update tasks to occur sequentially despite sharing said common priority level;

wherein said splitting allocates destination computers sharing a common network portion of said computer network to a common group;

wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network;

wherein said updated data is one or more of:

malware definition data; and

a malware scanner program.

3. (Currently Amended) A computer program product embodied on a [[tangible]] computer readable storage medium as claimed in claim 1, wherein said computer network uses an IP transmission protocol and said multicast messages are IP multicast messages.

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5. (Currently Amended) A computer program product embodied on all [[tangible]] computer readable storage medium as claimed in claim [[4]]1, wherein said malware includes one or more of computer viruses, worms, Trojans, banned files, banned words and banned images.

9. (Currently Amended) A computer program product embodied on a [[tangible]] computer readable storage medium as claimed in claim 1, wherein if said push update task has not completed updating all destination computers within said corresponding group of destination computers within a timeout period, then said push update task is terminated and updating of destination computers not completed is added to a subsequent push update task.

10. (Currently Amended) A computer program product embodied on a [[tangible]] computer readable storage medium as claimed in claim 9, wherein a user alert message is generated identifying those destination computers for which updating was not completed.

11. (Currently Amended) A method of updating out-of-date data stored by a plurality of destination computers with updated data stored by a source computer using a computer network connecting said source computer to said plurality of destination computers, said method comprising the steps of:

associating priority data specifying a priority level with each destination computer; in dependence upon said priority data, establishing a plurality of groups of destination computers such that destination computers within a group of destination computers share a common priority level;

generating a plurality of push update tasks driven by said source computer, each push update task serving to transfer said updated data from said source computer to a corresponding group of destination computers via said computer network;

ordering said plurality of push update tasks in dependence upon said common priority level of each group of destination computers to which a push update task relates to form a sequence of push update tasks such that push update tasks corresponding to a higher common

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priority level occur within said sequence before push update tasks corresponding to a lower common priority level; and

sequentially executing said sequence of push update tasks upon said source computer to transfer said updated data from said source computer to said plurality of destination computers via said computer network;

wherein said source computer transfers said updated data to said group of destination computers using multicast messages that are addressed to all destination computers within said group of destination computers;

wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said step of establishing splits said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said step of ordering orders corresponding push update tasks to occur sequentially despite sharing said common priority level;

wherein said step of splitting allocates destination computers sharing a common network portion of said computer network to a common group;

wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network;

wherein said updated data is one or more of:

malware definition data; and

a malware scanner program.

15. (Currently Amended) A method as claimed in claim [[14]]11, wherein said malware includes one or more of computer viruses, worms, Trojans, banned files, banned words and banned images.

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21. (Currently Amended) Apparatus for updating out-of-date data stored by a plurality of destination computers with updated data stored by a source computer using a computer network connecting said source computer to said plurality of destination computers, said apparatus comprising:

- associating logic operable to associate priority data specifying a priority level with each destination computer;

- establishing logic operable in dependence upon said priority data to establish a plurality of groups of destination computers such that destination computers within a group of destination computers share a common priority level;

- generating logic operable to generate a plurality of push update tasks driven by said source computer, each push update task serving to transfer said updated data from said source computer to a corresponding group of destination computers via said computer network;

- ordering logic operable to order said plurality of push update tasks in dependence upon said common priority level of each group of destination computers to which a push update task relates to form a sequence of push update tasks such that push update tasks corresponding to a higher common priority level occur within said sequence before push update tasks corresponding to a lower common priority level; and

- execution logic operable to sequentially execute said sequence of push update tasks upon said source computer to transfer said updated data from said source computer to said plurality of destination computers via said computer network;

- wherein said source computer transfers said updated data to said group of destination computers using multicast messages that are addressed to all destination computers within said group of destination computers;

- wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said establishing logic is operable to split said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said ordering logic is operable to order corresponding push update tasks to occur sequentially despite sharing said common priority level;

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wherein said splitting allocates destination computers sharing a common network portion of said computer network to a common group;

wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network;

wherein said updated data is one or more of

malware definition data; and

a malware scanner program.

25. (Currently Amended) Apparatus as claimed in claim [[24]]21, wherein said malware includes one or more of computer viruses, worms, Trojans, banned files, banned words and banned images.

31. (Previously Presented) A computer program product embodied on a computer readable storage medium as claimed in claim 1, wherein said multicast messages that are addressed to said destination computers within said group of destination computers include a shared push update task.

32. (Previously Presented) A computer program product embodied on a computer readable storage medium as claimed in claim 1, wherein each destination computer stores said priority data thereof specifying said priority level associated with said destination computer and communicates said priority data thereof with said source computer in response to a first connection with said source computer.

The following is an examiner's statement of reasons for allowance:

The primary reason for allowance of the claims is that the prior art of record in combination of each other fails to teach, disclose or suggest:

A computer program product embodied on a computer readable storage medium for controlling a source computer to update out-of-date data stored by a plurality of destination computers with updated data stored by said source computer using a computer network connecting said source computer to said plurality of destination computers, said computer program product comprising:

associating code operable to associate priority data specifying a priority level with each destination computer;

establishing code operable in dependence upon said priority data to establish a plurality of groups of destination computers such that destination computers within a group of destination computers share a common priority level;

generating code operable to generate a plurality of push update tasks driven by said source computer, each push update task serving to transfer said updated data from said source computer to a corresponding group of destination computers via said computer network;

ordering code operable to order said plurality of push update tasks in dependence upon said common priority level of each group of destination computers to which a push update task relates to form a sequence of push update tasks such that push update tasks corresponding to a higher common priority level occur within said sequence before push update tasks corresponding to a lower common priority level; and

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execution code operable to sequentially execute said sequence of push update tasks upon said source computer to transfer said updated data from said source computer to said plurality of destination computers via said computer network;

wherein said source computer transfers said updated data to said group of destination computers using multicast messages that are addressed to all destination computers within said group of destination computers;

wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said establishing code is operable to split said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said ordering code is operable to order corresponding push update tasks to occur sequentially despite sharing said common priority level;

wherein said splitting allocates destination computers sharing a common network portion of said computer network to a common group;

wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network;

wherein said updated data is one or more of:

malware definition data; and

a malware scanner program.

A closest prior art found was from the same assignee, U. S. Patent No. 7,013,330 B1 issued on March 14, 2006, however it failed to disclose and/or claim updating the data based on the priority level of the target computers and further failed to disclose a process wherein, if any group of destination computers includes more than a threshold number of destination computers sharing said common priority level, then said establishing code is operable to split said group to form said plurality of groups of destination computers from said destination computers sharing said common priority level and said ordering code is operable to order corresponding push update tasks to occur sequentially despite sharing said common priority level; wherein said splitting allocates destination computers sharing a common network portion of said computer network to a common group; wherein within said group of destination computers sharing said common priority level and being split, destination computers connected and not logged into said computer network are grouped together and split from and treated as having a lower priority level than destination computers connected and logged into said computer network; wherein said updated data is one or more of: malware definition data; and a malware scanner program.

Therefore for the at least these reasons, the claimed invention is considered in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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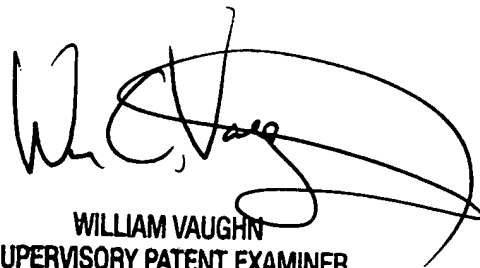
Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kamal Divecha
Art Unit 2151
September 19, 2006.



WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100